"Under Construction"

A Longitudinal Study of the Correlation Between Cognitive Development and Writing Ability

The Case Studies

An Honors Thesis by

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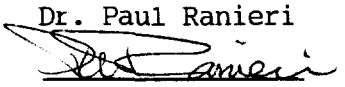

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INTRODUCTION

Almost three years ago, I was introduced to the concept that men and women not only develop and think differently, but also construct their writing in different ways. I had been exposed to the developmental differences between male and female cognition patterns in an Honors Colloquium on Gender and Cognition, but the examples of construction differences became apparent during my experience as a writing tutor. As a tutor, I worked with several people consecutively on a weekly basis trying to establish working drafts of papers they had been assigned for class. The students and I worked through the idea-generating stages, the organizational stages, the actual writing stages, and finally, through the reread and rewriting stages. During these sessions, I read many papers organized by men and by women and had to restructure my teaching techniques between each session to adjust to each student's individual differences in organizational strategies. From then on, I have been determined to discover what factors control men's and women's choice of organizational structures as well as their choice of writing styles.

Within this paper, I hope not only to proceed through the stages of that writing development to discover what actually accounts for the differences between male and female

organizational patterns, but also to offer some tentative hypotheses about what may be in control of these patterns as students write.

The three major focus points throughout this essay will be:

1) How do writers develop their writing structures?

2) How do individual genders develop their unique styles? and

3) How do the styles of the two genders differ?

I will approach answering these questions by:

1) Reviewing selected past literature concerning selected modes of the writing process, the basic development of the cognitive and composing processes, and the developmental differences between male and female thinking schema.

2) Reviewing a larger empirical study concerning the same topic.

3) Describing and then interpreting my own case samples on that larger study.

4) Drawing some implications for social and educational effects.

CHAPTER I

REVIEW OF SELECTED LITERATURE

I. Composition Studies (The Monitor as a Connector)

In order to give context to the four major questions posed, I need to look first at a writing process theory. I have chosen for this review Flower and Hayes' article "A Cognitive Process Theory of Writing" because it is an up-to-date process theory. I will use their study as a broad contextual base, even though I will attempt to refine their theories later.

Within their article, Flower and Hayes react to the current stage models of writing. They argue that "the problem with stage descriptions of writing is that they model the growth of the written product, not the inner process of the person producing it" (Flower and Hayes, "Cognitive" 367). The stage models of writing depict the writing process as occurring in an organized and coherent line consisting of prewriting, writing, and rewriting, and thus do not address the issue of the coordinated efforts of the writer in the areas of planning, writing, and rewriting. Stage models, according to Flower and Hayes, turn the process of writing into an inflexible history of the written product. Stage models do not address the fact that the stages of the actual writing are recursive, working within each other and

seldom in an organized, linear manner. The process of writing, they argue, cannot be codified/generalized to the point of losing sight of the individual's processes.

Flower and Hayes argue that the stages of composing must take place as they are called upon by the writer, not as a part of a generalized process. In this way, writing is viewed as a process of the writer, not as a process of the written product. A clear example of the difficulties posed in linear modeling strategies occurred when a Yugoslavian student attempted to write an informative piece about her home country. She had a difficult time generating ideas for an informative paper. Instead of forcing her into an accepted prewrite strategy for an informative paper, the professor suggested that she attempt to think of some things typical of living in America and to think of some related issues of living in Yugoslavia, making lists of each. The student then contrasted the two lists of ideas to provide the material necessary for her informative essay, choosing only the items from her list of ideas about Yugoslavian life. She got to the process of the writing by comparing and contrasting, even though the essay used only one set of data. The processes of writing, revising, and rewriting were used simultaneously to create her essay, and the final written product in no way reveals the steps necessary to produce it. This study attempts to focus on the overall process development of writers through the examination of an empirical study, while keeping sight of individual variations, such as those employed by the Yugoslavian student, via the case samples.

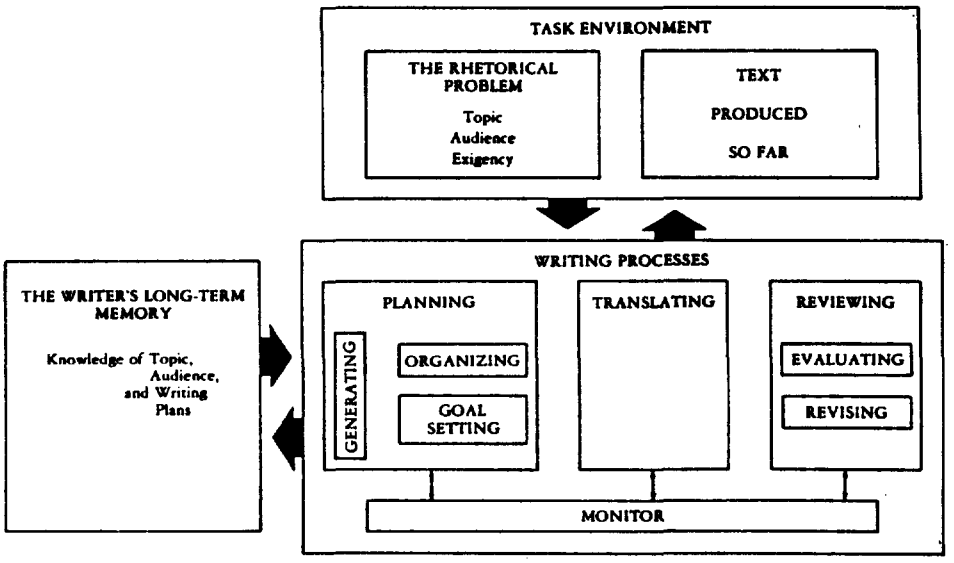
The components of a truly process model of writing is a topic touched upon by another researcher, Roger Shuy, in his article "Toward a Developmental Theory of Writing." Shuy complains that most instruction focuses on the teaching of the simpler learning patterns, such as syntax, usage, format, or the basic physical organization of a paper, and leaves the "more cognitive development to the reader's own discretion" (Shuy 122). These more complex components include the ability to know when to use a traditional thesis, how to develop a complete thesis which is not too broad, how to make effective use of detail within a paper, how to choose and use different tones, and how to know when a paper has reached its goals and is nearing closure. Shuy stresses that teachers leave the actual connecting between the mechanical writing skills and the more complex rhetorical skills to the writer because they find it almost impossible to teach connections and processes unless they have generalized them to the point at which the individual writer's own internal connecting processes are lost. He argues that skills which are often overly stressed in learning writing are often not the ones necessary to good writing, and that research hasn't addressed the way the components of writing actually interact. He states that "the craft of writing can and does exist very well without the science. It uses the science without being taught it" (Shuy 125). That is, current theories cannot explain the discrepancies between how writers who are often poor in writing mechanics and poor in following a structured stage outline are able to convey their meanings in an equally organized manner as writers who are

strong in these areas. These students may be focusing their energies on being creative rather than on following the processes which will make them stylistically correct.

Both Flower and Hayes and Shuy offer models to represent the ways in which they prefer to depict the writing process. Flower and Hayes concentrate their efforts on a process model which does not denote any specific order for the options available, yet still attempts to account for their presence and availability to the writer. Writers are able to direct their processes on the basis of individual needs.

Flower and Hayes' process model (See Figure I) breaks the act of writing into three major units: "the task of environment, the writer's long-term memory and the writing processes" (Flower and Hayes, "Cognitive" 369).

FIGURE I

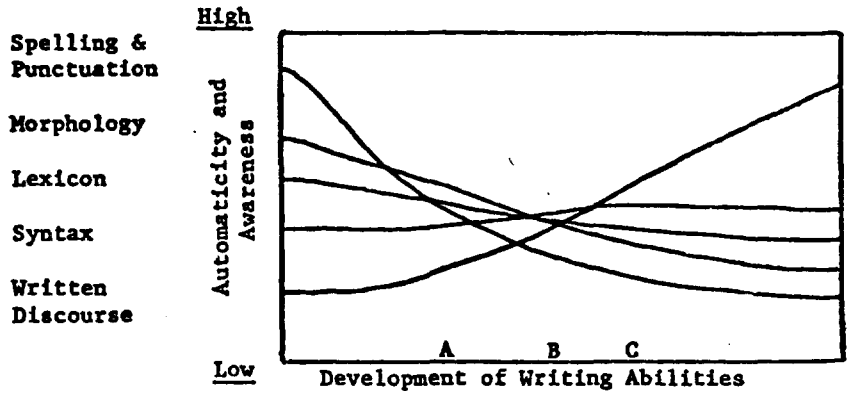


Flower and Hayes' Process Model of Writing
(Flower and Hayes 1981)

The task environment includes all outside factors operating on the writer at the time of writing, including the document itself; the second element is all of the writer's memories which come to play on the activity while in the writing process; the third element is the actual processes of writing, including planning, translating, and reviewing (Flower and Hayes, "Cognitive" 369). The researchers determined that all of these elements interact throughout the writing process--many times competing with each other to make their own characteristics obvious in the final written document.

Shuy's process model (See Figure II) also breaks the process of writing down into components of composing.

FIGURE II



Representation of Development of Writing Abilities

(Shuy 126)

For example, not only does his graph cover the mechanical skills necessary to writing, but it also includes detailed discourse strategies. His graph focuses on his belief that writers are

capable of becoming so aware of their own processes that some processes actually become automatic, allowing writers to focus their attention elsewhere.

What exactly is it, then, that controls the choice of processes in Flower and Hayes' model and the movement from component to component in Shuy's model? Flower and Hayes discuss the possibility of a "monitor" (374). This monitor acts as a controlling factor as to what processes are being put to use at specific times during the writing process. The monitor determines when one writing goal has been reached and when it is time to move on. This monitor may be the key to understanding how writers develop their writing structures, how the genders develop their writing structures, and how (why) the genders differ in their styles. This monitor could also be the determining factor in explaining how Shuy's components work together and how students develop their awareness and automaticity. Thus I will be returning often to the concept of "monitor" as I search for the decision-making principles various types of monitors might include.

II. Cognitive Studies

What elements make up the monitor is the next question, then, that must be researched. Although Flower and Hayes are very sketchy about what elements are included in the monitor, I feel that it can most easily be traced and understood if one sees it in movement as a writer writes, and if one sees it under development within the process of the writer's cognitive growth. I have come to be convinced that a good description of cognitive development from which to draw inferences concerning the monitor is Jean Piaget's theories on cognitive development as interpreted by Paul Ranieri, which he stated in his dissertation "A Descriptive Study of the Correlation Between Freshman English Students' Cognitive Development and Selected Measures of Their Writing Ability." According to Ranieri,

> In Piaget's view, humans become increasingly able to abstract from experience. Schemes based on physical actions yield to processes utilizing mental symbols and signs. Single processes eventually become coordinated. Coordinated processes begin to operate on their own forms (that is, they come to ignore specific content, to concentrate on the methods of coordinating and differentiating among ideas), relationships among forms are noted and registered for future references. (9)

In Chapter Three, "Review of the Literature," Ranieri theoretically justifies the connection between Piaget's five

stages of cognitive development and the ability to write. Figure III lists references of composition specialists who have asserted that the skills Piaget describes as formal operational are also essential for mature writing.

Figure III.

CHARACTERISTICS COMMON TO BOTH COMPETENT WRITING AND FORMAL THINKING

1. The ability to recognize whole/part relationships;

Piagetian-Literature	Rhetorical-Theory
Inhelder and Piaget	Warnock
Piaget and Inhelder	Kinneavy
Piaget (Structuralism)	
Kamii	
Ginsburg and Opper	

2. The ability to become increasingly aware of combinations;

Inhelder and Piaget	Bereiter
Piaget and Inhelder	
Piaget (Structuralism)	
Ginsburg and Opper	
Maher and O'Brien	

3. The ability to think simultaneously about several aspects of a situation and the ability to isolate variables;

Inhelder and Piaget	Elbow
Ginsburg and Opper	Britton et al.
Irmscher	Flower and Hayes ("Dynamics)
	Bereiter

4. The ability to see beyond the real to the possible;

Inhelder and Piaget	Moffett
Piaget and Inhelder	Emig
Ginsburg and Opper	Warnock

5. The ability to engage in reflective abstraction.

Inhelder and Piaget	Holland
Piaget (Structuralism)	Flower and Hayes ("Cognition")
Furth	Hayes and Flower
	Flower and Hayes ("Cognition")

In brief, the following is a list of working definitions of the elements of Piaget's last cognitive stage--formal operational--with examples of how those stages pertain to a student preparing a mock essay.

1) The first characteristic of cognitive development is the ability to recognize relational differences between wholes and parts. At this stage the student realizes that he must develop a paper which relates one completed idea and that that idea must include several integrated parts.

2) The second characteristic is the ability to be aware that certain combinations may be used in determining the wholes and the parts. Here the student realizes that he cannot simply state his whole idea at one time and expect his readers to grasp the whole idea. He recognizes that his idea will be better presented and received if he is able to break the main idea down for his readers into divisions or parts and deliver those parts in an organized manner.

3) The third characteristic is the ability to think simultaneously about certain aspects of a situation and the ability to isolate variables for future use. Here the writer understands that his paper must not only include one idea, but that he must include several sub-ideas which will help to define his main idea. He is able to present those ideas in an organized manner and then to work with one at a time, developing individual ideas while remembering that they are structured within a larger idea and that they are to be followed by other ideas to which they must relate.

4) The fourth characteristic is the ability to see beyond the real to the possible. Here the writer recognizes that his essay must solve real rhetorical problems, and he is able to question what the best method is for achieving those (possible) ends. He realizes that perhaps one type of essay will work better than others and that to achieve that type of essay he must fulfill certain goals. He projects those goals, local or global, and writes toward them.

5) The final characteristic of cognitive development is the ability to engage in reflective abstraction. Once the writer has written his essay, he is able to look back over his (real) work and question whether it includes those elements which fulfill the goals (possibilities) he has set. He is able to see the wholes, the parts, and the way they interact, and to understand that he has initiated the separate stages for specific reasons. He then stores this knowledge about his writing/thinking processes for use in other composing situations.

III. Gender Studies

Although these five characteristics are accepted by most scholars today as the basis for formal-operational thought, research shows that Piaget's tests may discriminate between genders (e.g. Lawson & Shepherd; Treagust). The wide-spread belief that men and women differ in their development may cast new light on the use of Piaget's theories in testing situations. Carol Gilligan's study In a Different Voice focuses on the differing ways men and women interpret and relate moral dilemmas. According to Gilligan,

> When one begins with the study of women and derives developmental constructs from their lives, the outline of a moral conception different from that described by Freud, Piaget, or Kohlberg begins to emerge and informs a different description of development. (19)

Ranieri, however, argues that Piaget's "...stages are sex neutral [though] the tests currently used to measure those stages are not. The problem lies with translating theory to test, not with the theory itself" ("Gender" 29). Within his article "Gender and Composing at the College Freshman Level: A Developmental Approach" Ranieri explores the differences between the genders when related to writing ability and cognition. Ranieri states that "...women tend to favor certain skills and subskills while men tend to develop initial competence with others" ("Gender" 6). He continues throughout the essay to list some of the more common differences between male and female patterns seen when their

writing is viewed from the standpoint of Piaget's formal operational stages of writing. In that context, the differences he discusses mirror those stressed by Carol Gilligan in her study In a Different Voice.

Gilligan found in her study that men see morality and fairness as being equal and that they tie moral development to the ability to be separate and follow rules. Women see morality in terms of conflicting responsibilities to outside factions (19). One possibility, then, for the fact that women often score lower on the tests designed to fit Piaget's system of cognitive growth is that women have a different view of what is relative, and they may communicate that view in a way which may not be measurable according to Piaget's scales. Gilligan poses that men see individual elements as separate, then explore the connections between the separate parts. Women, on the other hand, assume that separate elements are somehow connected and attempt to understand the individual relationships within the network (38). (See Figure IV for a visual description of this point.) If men and women are approaching like elements via different starting points--"women start with the whole and turn inside to see separate relationships; men start with the pieces 'stapled' end to end then begin to see larger interrelationships " ("Gender" 7-8)-- then how can their writing processes be measured by a scale which does not take these differing approaches into consideration?

In "Gender" Ranieri attempts to further expand Gilligan's points within a Piagetian sphere by discussing how men and women

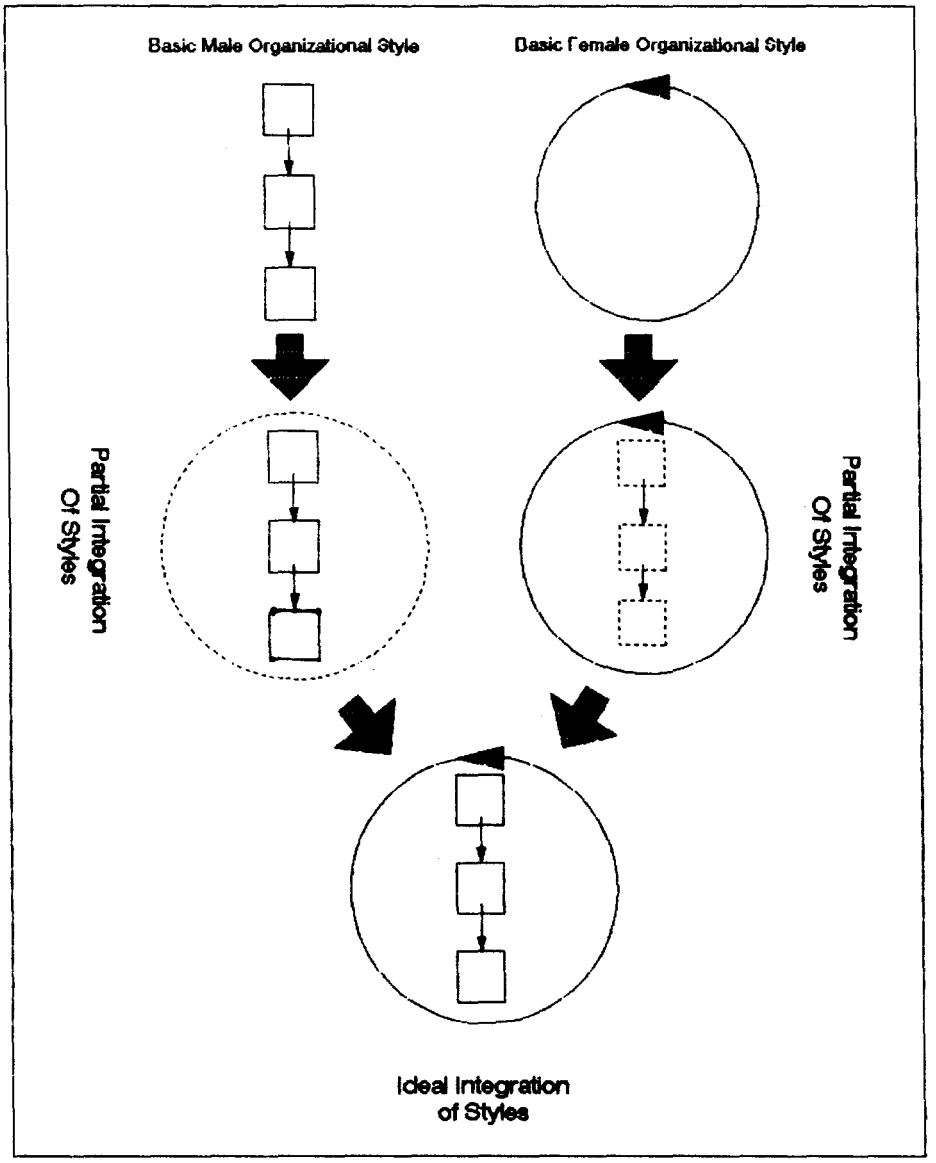


Figure IV

recall elements differently from their memories. He states that males "...need visual and motor stimuli to best store data....

[while] females may better store data using verbal cues..." (9-10). These differences in storage techniques may affect the results of testing done using either visual or verbal cues.

Ranieri feels Gilligan clearly considers Piaget's third characteristic of formal operational thought as it pertains to the rhetorical role that "audience" might play in an essay. She states that males are more prone to address a "generalized other," and women approach audience as a "particular other." Ranieri states that

> males often assume a publication-type audience while concentrating on the sequential ordering of all types of subject matter. Females may tend to be more holistic, dealing more comfortably with audiences below the publication level.... (12)

Given that they understand what a good essay must include and accomplish, mature writers often sense the imbalance of their own composing strategies and perceive the need to integrate the male and female styles of composing. Younger males generally deal with changes within their writing after the essay has been written in order to preserve the sequential ordering patterns they prefer. Women, however, view changes within their texts as having an extended effect upon the outcome of that text, and therefore choose to make their changes within the drafting process. Both males and females benefit from peer editing, however: males gain an understanding for the larger scope of composing, and women gain an appreciation for the organizational effectiveness of sequential thinking.

Ranieri addresses the ability to see beyond the real to the possible according to one's gender by admitting that both sexes have difficulty, but possibly for different reasons. It is possible that the women are limited by their inability to operate without speculating from another's point of view, and that men are limited by their tendency to concentrate on if-then-therefore reasoning without taking the audience into consideration.

Piaget's final characteristic, "reflective abstraction," is also considered to vary by gender. The possibility exists that women attain holistic revision easier than men because they are able to "realize quicker the general effect of changing one of those elements (necessary to good writing) because it is already part of their process," while it may also be possible that "once a male writer's reasoning skills reach a certain level, [he]...is better able to generalize the effects of adapting for a 'particular other' or for a new tone" ("Gender" 15).

Obviously, many of these assertions are, as of yet, highly speculative. Although some research has been conducted to verify that the genders differ in their approach to composing (the empirical study described here is one such study), little has been accomplished in the area of understanding the need to integrate the two styles toward a more gender-neutral, more mature writing/thinking process.

This project attempts to describe the possible effect that developmental factors and gender have on the composing processes, while hypothesizing that mature writers approach a relatively gender-neutral stage. How then do young writers compose

differently, yet how do their differences assimilate with and accommodate to a more common, mature process?

IV. The Empirical Study

(with Paul Ranieri)

The purpose of the three and a half year longitudinal study was to confirm the extent of the relationship between Piaget's stages of development and selected measures of writing ability, particularly holistic evaluations of two persuasive essays. The research questions for this study were as follows:

--What changes would occur in cognitive development scores?

--What changes would occur in holistic and syntactic scores?

--What correlation, if any, would exist between cognitive development and the growth of writing skills?

--What relationship, if any, would exist between the writing scores in 1988 and the cognitive scores in 1984? In other words, is there a decalage or gap between the ability to think well and the use of new thinking skills to write?

--What differences on these previous four questions would exist between males and females?

Thirty-nine subjects (twenty-two females, seventeen males) completed all the testing over the four years. One particular facet of the testing needs further explanation. Two cognitive tests were used because Ranieri's previous study (1983) indicated that females may not score as well on the picture-based test (IPDT), needing instead a more verbally based test (in this case PLOT) to measure their cognitive abilities. Results rewarded

that sense of caution.

Table I below summarizes the resulting correlations for all subjects.

TABLE I

CORRELATIONS BETWEEN TWO COGNITIVE TEST SCORES

AND A HOLISTIC MEASURE OF WRITING ABILITY

	IPDT	PLOT
1984	.35*	.45*
1988	.15	.19
RATE	.05	.18
DECALAGE	.32*	.33*

(*= SIGNIFICANT AT THE .05 LEVEL)

Table II summarizes the results on the same questions for males and females.

TABLE II

CORRELATIONS BETWEEN TWO COGNITIVE TEST SCORES

AND A HOLISTIC MEASURE OF WRITING ABILITY

(SEPARATED BY GENDER)

	IPDT		PLOT	
	M	F	M	F
1984	.41*	.31	.47*	.52*
1988	.20	.18	.24	.14
RATE	-.06	.02	.02	.46*
DECALAGE	.48*	.06	.51*	.21

(*= SIGNIFICANT AT THE POINT 0.5 LEVEL)

From these results the following conclusions can be drawn in reference to the research questions above:

--Both the cognitive and holistic scores changed, rising by at least three points on each measure. Separated by gender, males and females gained equally on PLOT, but females only gained half as much as males on the IPDT. On the holistic scores, males outgained females by a point yet still ended two and a half rating points below the females.

--Significant correlations exist between cognitive development and writing in 1984, though not in 1988. This result was almost expected given the conclusion in 1983 that any new study should use students at two grade levels (ninth graders and college freshmen). By 1988 the cognitive gaps had closed to such an extent that the two cognitive tests used were unable to sort subjects. Note that the use of two cognitive tests was justified. The only correlation below .05 in 1984 is the one for females on the IPDT test. Females may need to have their cognitive growth measured in a more verbal medium, a conclusion supported by the points listed below.

--The rate of development (defined as the result of dividing 1988 scores by 1984 scores, thus establishing a rate of growth for each student) was erratic for males but dramatically not for females using the PLOT scores. In other words, females showed similar rates of growth on the cognitive and holistic scores. Such a result would be expected if female's thinking develops through the verbal

medium rather than in a purely analytic mode.

--If cognitive development for males is not related to the growth of their writing, could males then show a decalage or gap between the development of their thinking skills and the integration of those skills with their writing processes? In terms of this study--for males, but not females--would 1988 writing scores correlate higher with 1984 cognitive scores than with 1988 cognitive scores? The differences, as Table II shows, are remarkable. For those males tested, the development of thinking skills seems to precede the influence of those skills on their writing, while for females the two seem to be more evenly matched if not inherently the same.

With such conclusions, seeing that a relationship does exist between Piaget's concept of cognitive development and the growth of writing skills, and seeing that the timing as well as mode of testing differs for males and females, a case study project probing the specific effects of development and gender on writing and thinking seemed justified.

CHAPTER II

STUDY DESIGN

I. Statement of the Problem

The purpose of this study is to see how the results of the empirical study, "Under Construction: A Longitudinal Study of the Correlation Between Cognitive Development and Writing Ability," can be related to individual case studies of males and females at the college and high school levels. Given this connection, I expect to see, that the subjects chosen for the case study will approach mature thinking/composing differently based on developmental levels and/or gender differences.

II. Subject Selection

Originally, I had planned on working with eight case studies, each of whom participated in the empirical study (two upper level college students, two lower level college students, two upper level high school students; and two lower level high school students; four males and four females), but because of the attrition of subjects, I was forced to restrict my research to only four students.

I eventually tested two representative college students, one male and one female, who neither scored especially high nor especially low on the empirical study. These students do, however, compare favorably with each other according to their Scholastic Aptitude Test (SAT) scores. The college male (hereafter referred to as Pete) scored SAT(V) 41/58 (raw

score/percentile), SAT(M) 46/61, and Test of Standard Written English 44. The college female (hereafter referred to as Traci) scored SAT(V) 48/82, SAT(M) 54/85, and Test of Standard Written English 54. Pete and Traci also compared favorably with their empirical test scores (See Chart 1).

Chart 1

	Traci			Pansy			Pete			Rick		
	1984	1988	88 Case Study	1984	1988	88 Case Study	1984	1988	88 Case Study	1984	1988	88 Case Study
IPDT	24	31		34	39		34	32		35	37	
PT	26	26		44	44		33	41		40	44	
HOL	20	24		15	21		16	21		12	24	
TU	21.5	24.0	14.0	14.5	40.0	44.0	19.0	25.0	21.0	9.0	16.0	17.0
TU/100	5.86	5.48	4.15	6.19	7.40	6.15	6.46	5.82	6.25	4.88	4.54	5.70
W/TU	17.11	18.25	24.10	16.21	13.61	16.30	15.56	17.22	16.00	20.64	22.06	17.50
AC	9.0	8.0	7.0	1.5	4.0	8.0	2.5	7.5	3.0	0.5	3.5	4.0
AC/100	2.44	1.83	2.08	0.45	0.71	1.19	.85	1.75	0.89	0.27	1.03	1.34
AC/TU	.42	.34	.50	.07	.10	.18	.14	.30	.14	0.5	.23	.24

They are close in IPDT scores at the end of testing but not at the first test. For this study, however, it will be the end test which holds the most significance. Traci and Pete score similarly to start at 24/26 (Traci, IPDT/PLOT in 1984), 34/33 (Pete), then differ between tests at 31/26 (IPDT/PLOT in 1988) and 32/41 respectively.

The two high school students tested, one male and one female, are quite similar according to their scores in the empirical study (See Chart 1). The high school female (Pansy) scored 34/44 and then 39/44. The high school male (Rick) scored 35/40 and then 37/44, setting up an almost equivalent comparison. Instead of also testing the high school students who tested low in 1988, I concentrated my efforts on finding two strong high school students because they provide the real middle ground between the high school students tested in 1984 and the college students being retested at the age of 22. Therefore, I tested two males, two females, two college students, and two high school students who are similar to, yet do not necessarily represent either the whole college group or the whole high school group.

III. Procedures

Since the research I am pursuing focuses on the monitor as a controller, I felt it necessary to design tests which would manipulate the test subjects' monitors in key ways in order to see how they prefer to function. The monitor's principles for functioning will be revealed in the subjects' tapes as they discuss why they went from one point to another and also in how they organized their essays. It is in this organization and in the participants' analysis of how other essays are organized that their monitors' operations become visible. I will be viewing the monitor at work both through their own processing (as revealed by them on the audiotapes), and also through their analysis of how they organized their own writing and the writing of others.

To study their monitors, I chose three activities; two of

the three are proleptic and the third is baseline. A proleptic exercise is one which "directs [writers] to their true concerns" (Schor 50). The purpose of the proleptic exercises described below is to force writers to focus on their main concern for a written piece by manipulating the testing situation. I hope in the process to see how these students conceive of the whole writing process by seeing which skills, (which parts) each "leans" on in test situations. The third test was a traditional outlining exercise used to view the subjects' hierarchical organizing principles. By giving the students a whole essay and requiring them to establish a traditional outline with topics and subheadings, I expected to draw inferences pertaining to their choice of organizational strategies.

Given that proleptic exercises are designed to get a better look at the monitor in action by interrupting the writing/reading processes at key points during testing situations, the first test administered was a twenty minute essay similar to the two given to them during the larger empirical study. By shortening the testing time to twenty minutes, I hoped to force my subjects to "depend on" writing skills with which they were more confident, if not more skilled. The discussion of the test in context of their usual "writing processes" would provide me with a look at their concepts of "writing" in both the impromptu and more relaxed situations. I videotaped them while they wrote in order to document their pauses to determine at what meaning-making stages their pauses occurred. I then had them watch their own videotapes immediately after writing in order to prompt

recognition of their own processes (Piaget's fifth principle). While they watched the videotapes, I audiotaped them as they were questioned and instructed/encouraged to vocalize anything they remembered about their thoughts and writing procedures.

The second test was administered to see how the students organized their ideas. They were given an essay broken down into sections, and they were required to summarize the whole of what they had read (Piaget's principle 1) and the parts which made up that whole (Piaget's principle 2), to integrate what they had just read with what they had expected to emerge (Piaget's principle 3), and to speculate what would come next in the organizational scheme (Piaget's principle 4). After they finished answering the written questions, I interviewed them on audiotape to see if they were cognizant of the factors which make up their own organizational processes (Piaget's principle 5).

The third test was more traditional. The students were given an essay, which contained some organizational twists, to read straight through and then divide into logical subdivisions, in other words, to outline. With this test I hope to see how the different subjects would organize the same material differently (Piaget's principles 1,2,3, and 4). I wished to see if their being able to view the whole essay, rather than only receiving parts as in the second test, would give me a different perspective of their monitors' techniques. This test was also meant to see how the subjects organized the parts given the whole, and whether their analytic skills with verbal tests resembled their cognitive test scores. Once they had finished

writing, They were audiotaped answering questions concerning their choice of organizational strategies. Again, this was to test their level of Piaget's formal operational skill 5.

IV. Materials

The first test used an essay (See Appendix A) designed to resemble the essays within Ranieri's dissertation and the larger empirical study. "The question asked for a persuasive response to be directed toward an older figure who is in a position of authority" ("A Descriptive Study" 86). This essay "allow[ed] students to exhibit their most complex mental structures, organizational patterns, and revision strategies" ("A Descriptive Study" 70) by encouraging the student to consider the many rhetorical constraints relevant to a persuasive essay.

The second test used a reading cue (See Appendix B), but this cue was broken down into sections. This proleptic technique was used to interrupt the subjects' monitors to see how the whole process of organizing texts is being worked out. This intrusion allowed me to look at their processes and their monitors at work, rather than at the end points when my subjects may have forgotten the intermediary stages to their composing. The end product may not always reflect the stages used, as seen with the example of the Yugoslavian writer in Chapter I. This particular essay was also chosen because it had a small discrepant section at the end that was actually a part of the whole essay but was separated by a large amount of text. I wished to see whether the subjects would see that the final part as extraneous or would see it as related to the logical whole of the essay.

The third test (See Appendix C) used an article for which the subjects were instructed to construct a formal outline. Through this outlining, I hoped to view what the subjects considered the most pertinent information, and how they organized the wholes and parts of the essay's content. This type of outlining, though, is strictly analytical in that it follows a more traditional organizing strategy requiring major subdivisions of the work, with minor subdivisions included within each major division (See Appendix C for an example). The logic follows a linear pattern which, according to previous test results, should be closer in preference to male ordered thinking strategies than female strategies.

CHAPTER III

RESULTS

Test I Results

The first results gained from my procedures are the persuasive essays (See Appendix D) written by the subjects in response to the first proleptic cue. I have recorded within the texts of these essays the individual subjects' long (PL) and short (PS) pauses and their rereadings of both the questionnaire (RQ) and their own texts (RW). A long pause was registered whenever the subject paused within his/her writing for any reason for longer than five seconds. A short pause was recorded each time a student stopped writing for longer than two seconds and then began composing again. Two seconds was chosen to level out differences in movement (like scratching, moving the paper, or adjusting the pen) that are too idiosyncratic to interpret consistently. Due to interpreting these movements as idiosyncratic, I may possibly have lost some data, but felt it safer to lose data than to interpret data falsely.

The second results gained from my procedures are the audiotapes of the subjects as they reviewed their tapes and as they were questioned at the end of each session. Portions of these tapes will be used for analysis in Chapter IV of this study.

For comparison Chart 1 lists the case subjects' cognitive test scores, holistic ratings, and major syntactic measures that were collected for the empirical study in 1984 and 1988 as well as the matching data when available from the case studies

CHAPTER IV

CASE STUDY ANALYSIS

In this chapter, the individual case studies of the four subjects are analyzed to ascertain if they reflect the gender/cognition patterns reviewed in Chapter I, or if any discrepancies can be noted. When looking at the case study materials and results as a whole, one can definitely see a developmental difference between the younger and older subjects, and also a highly visible difference between the genders. If I were to choose one key issue from each of the testing sessions with which to illustrate these differences, those issues would be:

1) the ability to deal with wholes and parts in Session I, including:
   a. the networking use of "I" and the importance of the personal voice within an essay,
   b. the importance of the audience,
   c. the focus of the monitor's energy in choosing to work on either a large-scale or localized meaning-making level.
2) the identification of a thesis in Session II.
3) the organization of key elements within the outline of Session III.

The use of the networking "I" is representative of Gilligan's gender differences. In using "I" as a focus for their essays, writers acknowledge a relationship with an audience in the style Gilligan calls characteristic of females. The writers

who choose to deemphasize this style often write to convey information to what Gilligan calls a "generalized other." This approach embodies a typically male approach, according to Gilligan's theory. The second topic within the whole/part division is the writer's relationship to the audience. Within each of the subjects' essays written for Session I is an indication of whether they are writing to a generalized audience or to a specified audience, and whether they are using the networking "I," thus putting Gilligan's theory to the test.

The third aspect of the ability to deal with increasingly complex wholes and parts is the way in which the monitor deploys its energy. Each essay was coded as to where the pauses and rereads occurred in order to determine the relationship between pauses/rereads and any meaning-making locations. If I accept Joseph Williams' theory that the major break within a sentence is near the verb, where past ideas of previous material are wedded to the new ideas that follow, then by plotting where the monitor makes itself felt in pauses, I can distinguish where the individual writers made meaning within their composing. The need to pause around the verb would indicate a higher concentration of effort on the making of meaning itself rather than worrying about local concerns such as choosing a noun to fulfill a prepositional phrase, selecting a transitional word, choosing a noun to follow an adjective, or choosing an adjective to follow a noun.

The analysis of the thesis identified by the subjects in Session II is useful in determining whether the participants are strong or weak in the principles established by Piaget reviewed

in Chapter I. According to Piaget's principles, the stronger writers should be able to determine the thesis of a piece of writing and see its relevance throughout the work, both in looking forward at predicting the new material and in looking backward at the material which had already been presented. A strong thinker should be able to relate both aspects to the work as a whole. Weaker writers, therefore, are less able to single out a more specific thesis and follow it all the way through a work, or are unable to relate individual parts of that thesis to the whole work. Since all four participants were given the same material to work with, this analysis should be able to determine which writers were able to determine which writers were able to specify and work with the thesis, and what the individual writers considered important enough to include within their theses statements. It should be noted at this time that within Session II all writers mention that they felt the author had organized the essay in an acceptable way (See Appendix E, test page 2, question 2) and that they did not have any trouble following the essay (2-3, this notation for this chapter indicates Appendix E, test page 2, question 3), yet each participant approached the essay differently and followed the organization in his/her own way. Whatever factors each used in understanding the essay were self-determined.

The determining of a thesis then leads to questions concerning how that thesis is put to work within an actual writing assignment, and how and whether writers are capable of separating a piece of writing into its component parts. This is

the reasoning for choosing the organization of an outline for the third analysis of strong and weak writers. According to Piaget, strong writers/thinkers are capable of dividing wholes into parts and then working within those parts individually. Weaker writers are less able to maintain the balance of a whole with subdivided parts. The question posed by this assignment was whether the subjects would be capable of recognizing and subdividing an introduction, a three-part body, and a final section from within the cue they were supposed to outline, and whether their cognitive test scores would reflect their ability to do so. Theoretically, the stronger writers' abilities should be reflected in their test scores.

From examining the subjects' answers to these three points, I have been able to determine who the strongest writers are. They range from strongest writer to weakest writer in the following order:

--Traci

--Pansy

--Rick

--Pete

This listing does indeed reflect the subjects' developmental scores, if those scores are tempered by what seem to be the limits of those tests. These limits include the fact that particularly the IPDT test may be gender biased, allowing for more male-oriented thinking strategies. The women do score higher on the language based test "PLOT," and overall the test scores reflect that females develop at a more even rate than

males. Hence, my ratings may indicate more how the writers write now in comparison to each other than how they may write five or ten years from now. Five or ten years from now, given the fact that Traci and Pete are older, Rick and Pansy might be better writers than Traci and Pete will ever be. This in some sense supports the cognitive test scores because Pansy and Rick are better thinkers according to these tests. So my analysis here is basically the way they are now and not necessarily the way, given the role of development seen in the empirical study, Pansy and Rick might end up when, like Traci and Pete, they are college students.

In order to justify my choices, I will review each of the subjects' results, providing what I feel are insights to the writing strategies of their monitors.

I. Traci

Traci proved to be the strongest writer overall because she is able to integrate both the male and the female methods of composing. Within the first Session she shows strong reliance upon the networking "I" to establish her viewpoint to a <u>specific</u> audience. She addresses her points to her audience by first relating the situation to herself: "recently I was introduced to the idea of a nationally-based test..., being a future educator myself, I have learned and experienced firsthand...." She admits within her tape that she feels it is necessary to organize her writing to convince her audience of the validity of her points without being obvious. This may be an indication that she must first establish her own credibility to the audience, but also

that persuasion to her does not assume an antagonistic stance but one in which the writer shares a network of responsibilities and values with the audience.

Although analyzing the pauses/rereads at the T-unit breaks alone provided no insights to meaning-making within Traci's text, an analysis of her pauses at verb locations did. Chart 2 shows that Traci and Pansy both focus their monitor's energy upon making meaning around the verb. For pauses and rereads other than these at T-Unit breaks 44% and 36% respectively occurred directly before, in the middle, or directly after the main verb. Rick and Pete, however, focus their attentions on localized changes. Only 17% of Pete's and none of Rick's non-T-Unit pauses and rereads occurred at the verb. This would seem to indicate that women focus on holistic meaning-making, tying the new idea to the larger whole pattern of meaning, while men focus on localized concerns.

Chart 2

	Traci	Pansy	Pete	Rick
Total T-Units	14	44	21	17
Total Pauses/Rereads	33	35	37	13
P/R at T-Unit Breaks	8	10	8	8
P/R at non T-Unit Breaks	25	25	29	5
Non T-Units P/R Centered Around the Verb	11	9	5	0
Non T-Unit P/R at Non-Verb Locations	14	16	24	5
% of P/R at Non T-Unit Breaks Centered Around the Verb	44	36	17	0

Within the second Session, Traci once again established herself as a dominant writer by clearly identifying the thesis of the text she was given (9-4). She recognizes that the key to the thesis is the fact that it includes not only Edison's ability to reason, but also the broader context that he was able to reason

through analogy. Although she recognizes this larger thesis, she is still a weak enough writer to be prompted at times by the key word "next," answering according to what she sees immediately preceding the cue, rather than according to what she recognizes as the complete context of the piece (2-1).

Overall, though, Traci understands the whole thesis, and in establishing her understanding of its organization, she accumulates pieces of the whole to create a general "feel" for the piece, rather than recognizing the interrelatedness of its individual pieces. This can be seen in 6-1 where she summarizes the whole piece in order to tie in the second point. This process of relating the parts to a larger whole in order to make better sense of the whole is also seen in her answers to the questions following Session II. Traci complains about the Dr Jenkins paragraph, saying, "To me it didn't seem to fit into the rest of the paper until I read the last page." She was unable to make sense of the part until she could relate it to a larger whole. When asked about the conclusion, Traci states "I think a conclusion should summarize... it [the conclusion to the essay] didn't solidify anything I previously read." When asked to define the term "solidify," Traci offers a clear representation of her portrayal of Gilligan's female mode of composing. She answers, "a concluding paragraph helps a reader to better justify or organize what he has read through summarizing and concluding remarks." Traci's need to "justify" within her writing supports Gilligan's theory that women feel more responsible to their audience.

Traci does, however, acknowledge that her method of organizing leads to questions she is unable to answer with any logical basis. When asked if she felt the essay had been organized logically, she answers, "I want to say yes, but something is wanting me to say no, and I'm not quite sure what." This is an indication that Traci has an intuitive feel for what is not logically organized, but she is unsure of her ability to answer in terms of "logic." Hence she doesn't commit completely. I feel that it is Traci's realization that her organization is based on female organization skills rather than linear male organizational skills which prompts her to agree that the organization is logical without a firm basis as to exactly why.

Traci's traditional organizational skills are, however, in no way lacking. Although she scored poorly on the testing, lower than even the high school students included here, she created the most organized outline of the four subjects. This ability to organize linearly while still being able to comprehend the whole picture is what makes her the best writer of the four and verifies my belief that the Piagetian tests do not adequately measure what they are supposed to measure, or that her skills haven't yet transferred from the verbal area to the perceptual and conceptual areas that these cognitive tests use. However, Traci's outline shows a clear understanding of all the subtopics within the larger thesis. Her introduction is complete, yet concise. Her coverage of the body is the strongest organized in that she represents the inner relationships between the major points and their subtopics while organizing them in a linear

manner. She is the only subject able to understand that the conclusion is a necessary, separate organizational feature, and she is the only subject to present a coherent outline of that conclusion.

II. Pansy

Although it may seem unusual that I chose the other female subject as the second strongest writer of the four, the data gathered from the testing strongly supports my choice. Pansy shares many of Traci's strong characteristics, while possessing characteristics of her own which make her an unusually strong writer for her age. She is younger than Pete, yet her skills place her well above him in composing and thinking ability.

Pansy's gender tendencies are revealed in much the same way that Traci's are revealed. Pansy pays particular attention to her audience, like Traci does, but unlike Traci, Pansy admits to thinking about many other factors and then singling them out as she is in the process of writing. She said, "I was thinking about lots of things at the same time." She continues to discuss outside factors including her boyfriend and her ending of the paper. This is also a clear example of mastery of Piaget's third principle. Pansy also reflects the female decision-making characteristics listed by Gilligan. Pansy discusses her choice of writing approach in terms of relationships. She says, "I kept it general. I knew if I got into personal experience, really personal, it'd go too long." She recognizes that she has too many relationships working within the context of the paper to include them all; therefore, her monitor makes the decision to

eliminate that approach, although she still realizes that her audience plays a major role, again exhibiting Piaget's third principle. She says, "what my purpose is...who I'm writing to" can change the wording of her essay. Thus she reveals that she is aware of setting up her goals in writing, Piaget's fourth principle. In addition, as noted above, at a later date Pansy may even grow to surpass Traci as a writer because she appears to be more aware of her purposes in writing. This can be seen as she recognizes the limitations of her approach as she admits that she would have "written more facts to back up" her essay if given time to rework it.

The second testing showed Pansy to be much the same as Traci in other ways. Pansy's pauses and rereads often occur at the verb, another indication that she is a strong writer. Pansy also clearly defines the thesis statement as including not only Edison's ability to reason, but also his ability to use analogy (1-1, 9-4). Pansy recognizes that the study discussed within the essay is a tool to find meaning about Edison. She understands that the results are there only as a clue to further understanding the essay's thesis. Traci was also able to make this distinction, but neither of the men do (1-3). As you will see below, the men concentrate on a linear list based on the study itself. They see the study's results as ends in themselves.

In one sense, however, Pansy is presently even stronger than Traci. Where Traci wanders occasionally away from the thesis to answer the "next" cue, Pansy is able to remain cognizant that the

next part must relate to the thesis; she sees into the idea of "essence of invention" (2-1), she sees the relationship to the whole thesis of Edison and invention, though she does not yet project going forward specifically to invention. It is possible that with further growth and practice she will become stronger than Traci on this point as well. Based on her IPDT and PLOT scores, Pansy is strong in organization and is becoming even stronger with every testing. She also will have a chance to further integrate the male and female styles of writing to approach a gender-neutral style of mature writing.

Pansy's inability to establish consistently the relationships between the whole and the parts is further revealed within her Session III testing. She is able to single out the introduction, but not as clearly as either Traci or Rick, and then she only acknowledges it briefly. She progresses clearly through the body, but becomes muddled within what she considers the conclusion. Pansy admits that she "hates outlines" and feels uncomfortable "subordinating ideas." This reveals that although she is capable of obtaining Piaget's third principle, she is not comfortable doing so, possibly because of a need to give equal credit to all factors. Pansy's high test scores indicate that she is effective within this area of logic and may learn to integrate the styles more at a later date. When asked if she understands the need for outlines, she says, "I don't think they have a purpose unless you have trouble organizing your ideas." She describes her organizational techniques as linear. "What comes out is just the main thought and that turns out to be

linear because it does have a controlling thought within it, but you don't understand all of the things that are shaping that thought and taking it where it goes." Therefore, I believe that Pansy is cognizant of the presence of her monitor; she knows that her "logic" and "traditional logic" clash even though the cognitive testing shows she has the ability to outline the essay more skillfully than she does. Again, though, she shows every indication that she will learn to integrate techniques later and become an even stronger writer.

III. Rick

Rick, the first male in my listing from best to worst composers, strongly displays several of the techniques Gilligan labels as male-oriented strategies. Rick makes use of the word "I" within the text, yet does not connotate the same networking pattern with it that Traci and Pansy do. He does not use it to relate the evidence he reveals to support his viewpoint, but rather to simply put the material into a general context. There is no sense of personal experience; rather, there is a sense of the separation Gilligan suggests is typical of male writers. The manner through which Rick presents his material is also different than that of Traci and Pansy, although not necessarily worse. He orders his paper around two basic premises. When asked how he organized, he revealed that this was a conscious choice. "I went with the two basic ideas." He felt that he "wrote it in kind of a two part fashion." This desire to establish a linear organization is absent in the women's papers. Traci admits that she wants to reorganize her information around her own knowledge,

not necessarily a logical progression, and Pansy says that she "wrote in the order that I thought about it." Rick defends his choice by saying, "It [his two-part organization] gets across the point that I want to make pretty quickly and so that's more or less my objective." Through this statement I am able to see that Rick is also aware of his goals (Piaget's fourth principle) yet establishes their implementation differently than the women. He develops his organization so that "everything just follows along in a sequence." By establishing this pattern and ignoring a more personalized audience, Rick directs his writing toward the "generalized other" Gilligan describes as the male-typical audience.

However, I determined that Rick was a weaker composer than the two women mostly because of his second session results. His weaknesses are first apparent when he is unable to effectively determine the thesis of the test cue (1-1). What he chooses is indeed a part of the thesis, yet he chooses to broad a description of what is actually a very clear thesis (Appendix B).

Rick's desire for linear organization is made apparent as he answers question three on page one with a listing of what order of ideas he expects the author to take. Though he makes repeated use of listing, Rick is capable of recognizing the interrelatedness of the parts as he is given them. In question one on page two of Appendix E, Rick recognizes that the "next" cue must somehow be related to the idea of the whole thesis. Rick also stands out from the other writers in that he recognizes earlier than they the relation to the telegraph in 5-1. While

the others may sense that a solution to the problem is coming within the text, only Rick is able to recall the cue which leads to this solution.

Throughout the test, Rick displays the characteristic of relating each of his examples to other examples and then relating those examples back to the thesis. This would seem to suggest that he is capable of using Piaget's third principle of holding items in mind while working with other items, even though he chooses to order those items linearly. In fact, he states within his interview following Session II that "good organization is flowing from point to point smoothly."

The outlining exercise also played a large part in moving Rick down in the rank of writers. Although he was able to establish a clear introduction section (which in fact very closely resembles Traci's) his outline drastically declines in its ability to relate points to wholes. He covers the body with clarity, yet is unable to separate the elements and establish which points are more important than others. He assigns equal value to the remaining sections. This would seem to indicate that although he realizes there ought to be separate parts, he is unable to organize those parts well enough to subordinate the less important ones. Rick acknowledges that there is a conclusion, but again, is unable to differentiate between important and less important items in diagramming. His outline shows the last section to be very brief and not separated as an individual heading.

IV. Pete

Although Pete scored fairly high in the Piagetian testing, and is the oldest male tested, I list him last in composing ability due to his organizational strategies in all three testing areas. Pete's organizational strategies are apparent immediately upon reading his first session essay. Pete relies upon the same type of linear organization that Rick relies upon, but Pete himself admits that he "just went from point," using the ideas that just "popped into" his head first. He admits that he did not start organizing until he was actually writing, but defends his organization by saying it "seemed like a logical way to organize it." From this statement, I can see that Pete shows an initial mixing of the gender styles presented earlier; like Traci and Pansy he allows ideas to flow in a kind of "free write," yet he then imposes his own sense of order upon those elements once his major point reveals itself. Chart 2 shows that Pete integrates pausing around the verb with pausing at local areas to make general additions to the text. He is able to use both thinking strategies, but is not yet consistently effective with either of them.

Pete pays little attention to his audience while writing because he says that although he recognizes his audience in papers written in class, he feels there is no need to direct his writing toward an audience in a persuasive essay. This is an indication that he is writing to a "generalized other" as by Gilligan. In addition to not consciously accounting for the audience factor, Pete deliberately leaves out his personal experience for the same reason, to maintain the objectivity that

he feels is most important in a persuasive essay. He says:

> How well you establish and support your arguments is the heart to persuasion..., because no matter how strongly you feel, unless you have a broad basis for those feelings, then no one is going to be persuaded to do anything. (Session I audiotape)

I feel that these examples represent the fact that Pete has not yet mastered Piaget's third principle as he is unable to deal with both the idea of his audience and his topics at the same time. He is also weak in principles one and two as he has difficulty establishing the whole before he determines the parts, and he does not specify the parts until he is in need of them. Pete shows basic integration, but based on Gilligan's principles, does not implement those elements which could make him a better writer, maybe because they would run counter to his "logical" organization.

Pete's inability to work with individualized parts makes it difficult for him to excel in the second test. He begins the testing badly by making the same mistake Rick does in identifying the thesis--he is overly broad in his choice. He fails to recognize the importance of the aspect of analogy to the overall paper and overlooks the subdivisions which must follow, marking his weakness in Piaget's principles one and two. Like Rick, Pete also often requires a linear structure to his organization and answers question 1-3 with the need for an actual numeric listing based on his seeing the study itself as an end result rather than as a tool for expressing a larger thesis.

Pete also often "falls for" the "next" cue and does not recognize the relationship of the preceding material to the thesis, marking him, again, as weak in principle three. Pete's linear thinking is so limited that he cannot relate more than one point at a time to the thesis he has determined, as seen in his answer to question 6-1.

Pete's listing as last among the participants is finally solidified by his inability to create any type of effective organization within his outline in Session III. First, he fails completely to identify an introduction. The rest of his outline is variously structured, after relying on the material found in the cue. He separates the body portion of the outline as his first section, making "good" and "bad" equal within the mating section, but leaving the bad people out of his marriage portion. He then muddles the rest of the organization as he attempts to find where the bad people portion should be placed according to his local use of a linear mode of thinking. Like Rick, Pete does not make the connection of the last part of the essay (bad career people) to the baby part where it belongs. Pete then conflates the first and second sections of his outline and attempts to cover his disorganization by putting everything he couldn't fit into section one into section two of his outline.

Pete is a good example of a rough mixture of the male and female composing techniques. Although he is unable to deal with the whole essay in the introduction (principle one), he is able to free write the parts he wishes to include. Although he is unable to put the parts together to form a unified whole

(principle two), he is able to determine that the whole exists. And although he cannot effectively deal with the individual parts while storing others (principle three), he can connect the ideas at meaning-making pauses within the writing process. He deemphasizes the need of his audience to relate to an author in favor of imposing a logical progression on his organization. His shortcomings at dealing effectively within either style of writing place him as the weakest composer even though he scores fairly well on the Piagetian tests. Some development could yet occur, but at 22, his formal schooling ended weeks after he completed this study.

Overall, then, there are several inferences that can be drawn from these test studies. First, that the women and the men do in fact organize their writing according to certain patterns, but that these patterns can be recognized and accounted for within their own composing. This point is best illustrated by the subjects' answers to Session II, page 6, question 1. Although each participant had answered the previous questions differently--the males referring the example to the thesis while the females attempt to place it into a larger pattern of meaning-- all recognized the authors intent and understood where they felt the essay was going. The second conclusion is that the Piagetian tests alone are not an effective method of measuring a writer's ability to compose, due to their inability to account for the differences between the genders' strengths. A perfectly clear example is Traci's low testing scores in comparison to the fact that she created the most comprehensive outline. Third,

chronological age is also not an effective method of determining the level a writer may be in mastering of Piaget's principles. Although Pansy and Rick are younger than Pete and Traci, they both make effective use of most of Piaget's principles and show that with proper development they could become even more integrated and stronger writers in the future. In particular Pete has difficulty with almost all of Piaget's principles and both he and Traci have little developmental time left for growth. Their training to write and in a related sense, to think would soon end with their formal education.

CHAPTER V.

Implications

This study is not meant to be all-inclusive. I have taken what I originally thought to be an interesting topic and have attempted to make some further sense of it, as much for my own understanding as anything else. This means, however, that there is much more work to be done. Although I have attempted to be as complete as possible within the limitations set for me, the analysis of even these four participants is far from complete. I believe that further study needs to be done in order to foster better understanding of an area which affects every aspect of our lives--the ways in which we come to communicate. Further study needs to be done concerning not only the gender differences, but also the development, control, and understanding of the way in which we determine how we will proceed with that writing--using the monitor.

While completing the work that I have, however, I realize that any further study would need to take into consideration the results of the past larger empirical study as well as the results I have provided here, and then expand both of the sets of data to discover more concerning gender and cognition. Further research should particularly incorporate a larger number of subjects in order to get an even broader view of the individual's monitor. The study should consider whether students who are young will continue to develop their skills along the veins in which they are developing when tested. Only by continuing with further study, possibly another empirical study, to test my results, will

Appendix A

Session I
Essay Three

Recently, much has been written about the lack of skills shown by both high school and college graduates. One suggestion by University of Virginia professor E.D. Hirsch is that in order for all the various members of a democracy to live together constructively, all citizens must share a common base of ideas and concepts (from such fields as law, politics, science, literature, ethics, religion, philosophy, history, psychology, and business). This base is then the foundation for all the communication by active members of our society. Experts like Hirsch and William Bennett, U.S. Secretary of Education, have suggested that a group of experts construct a list of these ideas/terms/concepts to serve as the content for a national exam that students must pass before they can graduate either from high school or college.

Since this panel of experts will be established by federal law, your representative, Congresswoman Susan Branch, a 50 year-old, three-term veteran member of Congress, is interested in your opinion. Write her a letter either supporting or rejecting the idea. Publicly, she has stated that she is undecided about her position on any bill that might establish this test.

<u>Sample of Terms/Concepts/Ideas for this National Exam</u>

actuary	Achilles heel
baroque	bas relief
cerebellum	disenfranchise
$E=mc^2$	federalism
galvanize	Homer
the id	Jesuit
KKK	Robert E. Lee
macho	Gamal Abdel Nasser
ozone layer	parabola
quark	Jean Jacques Rousseau
silicon chip	Taoism
uterus	Vietnam War
warrenty	X-chromosome
yellow press	Zionism

Session I
Analysis

Carefully watch the videotape. You have been given the control so that you are able to advance or rewind as often as you wish. The object of this exercise is for you to remember as much as possible of what you were thinking at individual moments while writing your essay. No details are too small, and everything you remember is a useful look at how you write.

We will be audiotaping your comments as you talk so that we can follow along with you and not have to take notes as we listen. Feel free to ask us any questions as they occur to you.